Catalogue no. 11-622-MIE — No. 008
ISSN: 1705-6896
ISBN: 0-662-42013-6

Research Paper

The Canadian Economy in Transition Series

Global Links: Long-Term Trends in Foreign Investment and Foreign Control in Canada, 1960 to 2000

by John R. Baldwin and Guy Gellatly

Micro-economic Analysis Division
18th Floor, R.H. Coats Building, Ottawa, K1A 0T6

Telephone: 1 800 263-1136

Statistics Canada Statistique Canada

Canada

106-01840/

How to obtain more information

Specific inquiries about this product and related statistics or services should be directed to Media Hotline, Communications Division, Statistics Canada, Ottawa, Ontario, K1A 0T6 (telephone: (613) 951-4636).

For information on the wide range of data available from Statistics Canada, you can contact us by calling one of our toll-free numbers. You can also contact us by e-mail or by visiting our website.

National inquiries line	1 800 263-1136
National telecommunications device for the hearing impaired	1 800 363-7629
Depository Services Program inquiries	1 800 700-1033
Fax line for Depository Services Program	1 800 889-9734
E-mail inquiries	infostats@statcan.ca
Website	www.statcan.ca

Information to access the product

This product, catalogue no. 11-622-MIE, is available for free. To obtain a single issue, visit our website at www.statcan.ca and select Our Products and Services.

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner and in the official language of their choice. To this end, the Agency has developed standards of service that its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll free at 1 800 263-1136. The service standards are also published on www.statcan.ca under About Statistics Canada > Providing services to Canadians.

The Canadian Economy in Transition Research Paper Series

The Canadian Economy in Transition is a series of new analytical reports that investigate the dynamics of industrial change in the Canadian economy. This new series brings together a coherent set of research reports that provide users with a wide variety of empirical perspectives on the economy's changing industrial structure. These perspectives include the dynamics of productivity, profitability, employment, output, investment, occupational structure and industrial geography. Readers are encouraged to contact the authors with comments, criticisms and suggestions.

The primary distribution medium for the papers is the Internet. These papers can be downloaded from the Internet at www.statcan.ca for free.

All papers in *The Canadian Economy in Transition* series go through institutional and peer review to ensure that they conform to Statistics Canada's mandate as a government statistical agency and adhere to generally accepted standards of good professional practice.

The papers in the series often include results derived from multivariate analysis or other statistical techniques. It should be recognized that the results of these analyses are subject to uncertainty in the reported estimates.

The level of uncertainty will depend on several factors: the nature of the functional form used in the multivariate analysis; the type of econometric technique employed; the appropriateness of the statistical assumptions embedded in the model or technique; the comprehensiveness of the variables included in the analysis; and the accuracy of the data that are utilized. The peer group review process is meant to ensure that the papers in the series have followed accepted standards to minimize problems in each of these areas.

Statistics Canada
Micro-economic Analysis Division

Global Links: Long-Term Trends in Foreign Investment and Foreign Control in Canada, 1960 to 2000

John R. Baldwin and Guy Gellatly

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2005

All rights reserved. The content of this publication may be reproduced, in whole or in part, and by any means, without further permission from Statistics Canada, subject to the following conditions: that it is done solely for the purposes of private study, research, criticism, review, newspaper summary, and/or for non-commercial purposes; and that Statistics Canada be fully acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, name of product, catalogue, volume and issue numbers, reference period and page(s). Otherwise, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopy, for any purposes, without the prior written permission of Licensing Services, Marketing Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.

November 2005

Catalogue no. 11-622-MIE, no. 008

Frequency: Occasional

ISSN: 1705-6896
ISBN: 0-662-42013-6

Ottawa

Cette publication est aussi disponible en français (n° 11-622-MIF au catalogue, n° 008).

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Acknowledgements

The authors wish to thank Ed Safarian, Philip Smith, Art Ridgeway, Cynthia Baumgarten and David Sabourin for their comments.

Table of contents

Preface ***6***

Executive summary ***7***

1. Introduction ***9***

2. Historical background ***10***

3. The changing importance of foreign firms in Canada ***13***

3.1 Models of foreign ownership 13
3.2 Data sources and definitions 15
3.3 Foreign control in the overall economy 17

4. Conclusion ***35***

5. Data appendix ***37***

References ***41***

Preface

This paper outlines broad changes in foreign ownership in Canada over the last forty years. It makes use of several different but complementary data sources that are produced by Statistics Canada to analyze the importance of foreign ownership in Canada. Over the last four decades, foreign multinationals that are operating in Canada have experienced first a retrenchment and then a resurgence in their activities. This retrenchment occurred during the period when foreign investment was tightly regulated and could be found across most industries, but was particularly evident in the energy and mining sector. The resurgence that has occurred subsequent to the introduction of a more liberal regulatory regime was also relatively widespread—though there are several sectors like the science-based and energy industries where this has not occurred.

Executive summary

This paper outlines the trend followed by foreign control in the Canadian economy over the last forty years. This has been a period with substantial changes in commercial policy, in government regulation of foreign investment and in economic conditions. Trade liberalization has reduced substantially the tariff walls behind which Canadian firms operated. Government policy with regards to foreign investment first became more restrictive and then more liberal. The Canadian economy has gone through economic cycles that have changed its ability to attract foreign investment.

The paper focuses on different measures of the importance of foreign investment that are produced by Statistics Canada. One is the percentage of assets or revenue that is under foreign control. The other is the amount of foreign direct investment coming into the country. Using these measures, the paper asks whether there have been dramatic changes in foreign activity, whether these shifts in foreign activity correspond to changes in the regulatory regime surrounding the climate for foreign investment, and whether the trends at the aggregate level are found in most subsectors. The findings are:

1) The share of both assets and revenues under foreign control starts to decline in the early nineteen seventies about the time the Foreign Investment Review Agency (FIRA) is implemented and continues through to the mid-nineteen eighties when the Agency is transformed into Investment Canada. After the reversal in regulatory regime, the shares of foreign-controlled assets and revenues rebound. Overall, foreign control returned by the year 2000 to almost the level that it had been at in the mid-1960s.

2) The aggregate data suggest that there are strong grounds to conclude that the major regulatory changes over the study period, the implementation of FIRA and the subsequent replacement of FIRA by Investment Canada, had an appreciable impact on the aggregate share of economic activity under foreign control.

3) Foreign investment was also associated with a variety of changes in the macroeconomic environment, beyond the impact of regulatory policy. We test this using regression analysis to investigate the effect of a set of variables that are meant to capture the economic environment and we still find the effect of the changes in regulatory regime. We also extend our analysis by focusing on a broad cross section of industries—asking if the pattern of decline and growth evident in the aggregate data is evident across many different sectors or localized to specific industries. We find that this

pattern is generally widespread—which supports the view that a common regulatory effect had an impact on the investment environment.

4) Not all sectors experienced decline in foreign control followed by growth. There are several reasons for this. In the first case, the tighter regulatory constraints of the 1970s were not relaxed equally across all industries in the mid 1980s. In the energy sector, restrictions on foreign ownership continued—albeit attenuated from the earlier period. As a result, the energy sector, which had experienced large declines in the earlier period, did not experience the same resurgence as did other sectors in the 1990s. While investment restrictions were loosened, the federally owned petroleum company (Petrocan) continued to exist and to be protected from foreign takeover.

5) Declines in the earlier period were not exactly reversed in some sectors where the advantages of foreign multinationals were diminishing. Rebounds in foreign control occurred in the manufacturing sector, as a whole, after foreign direct investment deregulation. This was particularly true in the manufacturing sectors that are capital intensive. But there is some evidence to suggest that the attractiveness of some of the assets that were associated with foreign penetration was reduced over the period. Foreign control in the science-based (research and development (R&D)-intensive) sector declined both before and after changes in the regulatory regime. So too did foreign control in industries where product differentiation was important. Despite downward trends in foreign control in both these sectors, it should be noted that foreign control still remained high therein at the end of the study period.

Chapter 1. Introduction

The performance of the Canadian economy depends on the efficiency of Canadian producers and the effectiveness of competitive market forces. In turn, the strength of market forces depends on inherent market characteristics like market structure but also on the interaction of producers and the political system. Firms in the market respond to economic incentives. And the operations of market participants are often tempered by regulatory constraints, writ large, that are imposed by the state.

The history of foreign influence in the form of multinational activity on the Canadian economy provides one such example of these counterbalancing forces. Foreign direct investment has been an important component of the Canadian economy since Confederation. Foreign firms in Canada have responded to economic forces by locating their production activity in Canada. Throughout, the Canadian political system has attempted to influence the nature of these activities—first through tariffs and commercial policy and more recently through direct regulation of foreign direct investment. The latter foray into regulation by the Canadian state offers a case study of the extent to which market forces can be shaped—how they are affected when regulation is imposed and how quickly they move back to their original state when those forces are removed.

In this paper, we explore the outcome of these forces over the last forty years—with an emphasis on the period when the regulatory regime went through two distinct but opposite phases and when commercial policy was gradually reducing tariffs. We make use of several different but complementary data sources that are produced by Statistics Canada to analyze the importance of foreign ownership in Canada.

Chapter 2. Historical background

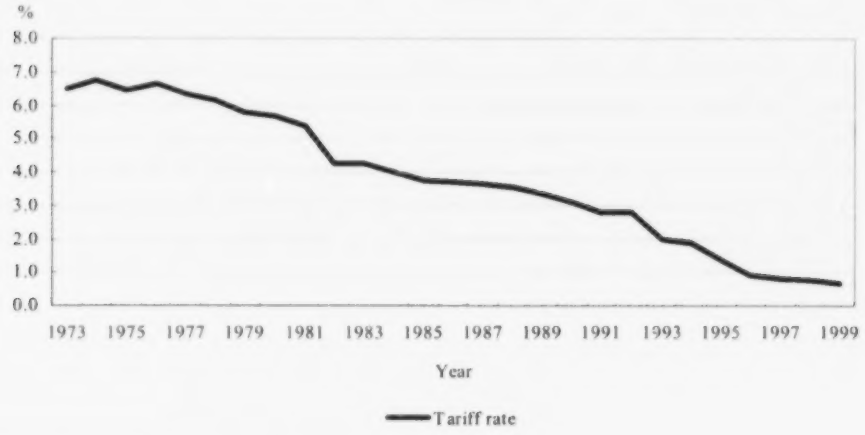
Over the past forty years, the policy regime that affects foreign direct investment has changed dramatically in several ways. First, trade liberalization gradually reduced tariffs over time. The Kennedy round of GATT tariff reductions was felt in the 1970s. The Tokyo round followed in the 1980s. These two multilateral rounds of tariff reductions were followed by the bilateral reductions between Canada and the United States as a result of the Canada-U.S. Free Trade Agreement (FTA) in 1989 and then the North American Free Trade Agreement of 1994 (NAFTA).

An earlier generation of economic studies focused on the extent to which the level of Canadian tariffs influenced the amount of foreign direct investment in Canada. Marshall, Southard and Taylor (1936) report that over half of Canadian subsidiaries of foreign-controlled firms, responding to their survey, indicated that high Canadian tariffs had led them to invest in Canadian markets. In a later survey, Safarian (1973) reports that about 20 per cent reported a similar motive. While there are other reasons for foreign direct investment (adaptation of foreign products to Canadian requirements, economies in transportation, labour savings), tariffs have long been seen to play a significant role in the amount of foreign investment. A gradual reduction in Canadian tariff rates (see Figure 1)[1] over the post-war period might, therefore, have affected the level of foreign investment.

Tariff reductions were not the only forces at work that have been hypothesized to affect the level of foreign direct investment (FDI) in Canada. While tariff reductions have reduced the barriers to the movement of goods, changes in the investment regulatory regime have first created and then relaxed barriers to the movement of capital. Following considerable discussion regarding the problems arising from foreign direct investment,[2] the Foreign Investment Review Agency was created in 1975 to monitor and approve foreign takeovers in Canada. Subsequently, the National Energy Program was implemented in 1980 with multiple objectives, one of which was to encourage the Canadianisation of the petroleum industry.

After a change in government in the 1980s, the Foreign Investment Review Agency was replaced with a new agency (Investment Canada) in 1985, whose mandate was seen to be less restrictive—as facilitating and soliciting foreign direct investment rather than controlling it. At the same time, foreign investment provisions of both FTA and NAFTA changed the thresholds required for review before the agency. In addition, the National Energy Program, with the exception of continued ownership of the national petroleum company (Petrocan), was allowed to lapse.

Figure 1. Average tariff rates

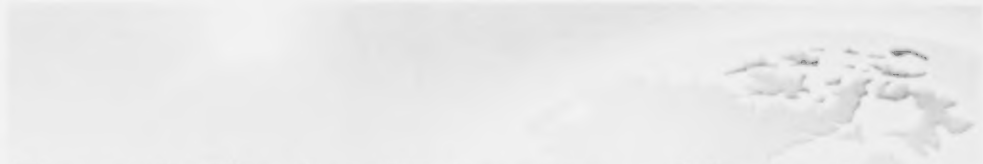


Source: Micro-economic Analysis Division database.

Liberalized trade regulatory regimes might be expected to have affected foreign direct investment in a number of ways. First, reductions in regulation reduce the cost and uncertainty involved with foreign investment and should be expected to increase investment. Second, tariff reductions allow firms greater flexibility in optimizing their production facilities. Whether this would result in the operations of foreign multinationals leaving Canada depends on whether the Canadian market can be better served from abroad or with production facilities in Canada once tariffs are decreased and on whether Canada has a comparative advantage in some areas that would lead production to be located here. Nevertheless, the emphasis given by a range of models (Eastman and Stykolt, 1960; Eastman, 1964; English, 1964) and the evidence in Caves (1982) has been that tariffs attracted foreign investment to Canada. Reductions in tariffs might, therefore, have been expected to have led to a long-run decline in foreign control. Changes in the regulatory regime, on the other hand, might have been expected to have been associated, first, with decreases in foreign direct investment, and then, with increases therein.

Endnotes

1. These tariff rates are calculated as total tariffs collected divided by the value of imports.
2. See Government of Canada (1972) and K. Levitt (1970).



Chapter 3. The changing importance of foreign firms in Canada

3.1 Models of foreign ownership

Before examining the evidence on multinational activity in Canada, a theoretical perspective is needed. Theory provides a framework within which the activities of multinationals can be set.

Multinationals differ from firms that simply trade abroad; they engage in production activity in several countries as well as trade between these countries. A theory of the multinational, therefore, needs to explain why a firm extends its production activities across geographic boundaries.

A seminal theory of the multinational that depends upon contract failure has been developed in its fullest form by Caves (1982).[3] This theory provides an overarching framework within which the activities of multinationals can be placed. In this framework, firms develop cross-national structures in order to exploit specific assets from which they derive competitive advantages. These assets are not easily transferred by one firm to another by arm's-length contracts because they involve tacit knowledge and imperfect information that make arm's-length contractual transactions difficult. Their efficient exploitation is best done by the extension of the boundaries of the firm across international borders.

Intangible assets, such as R&D or specific organizational competencies, are standard examples of the type of assets that lead to the development of multinational activities. These assets effectively represent a type of intrafirm public good—they can be shared and utilized within the firm at little or no marginal cost. Intrafirm transfers of these assets through FDI avoids the appropriability problems that can arise from arm's-length transactions, especially in cases where new intangible assets are hard to value, or where their utilization may confer considerable strategic advantage (e.g., new innovations).

The argument that contractual failure in some markets is behind the development of multinationals is the common link to explain activities in a number of areas—not the least of which is investment in natural resource industries. These are industries in which technology of extraction provides one explanation for multinational activity. But market failure in raw material markets is equally important. It is difficult to write long-term contracts to account for the contingencies that arise in these markets—because they are particularly volatile and they often involve bilateral monopolies (Teece, 1978). Cross-border activities are a useful means of ensuring stable, predictable access to specific inputs—in situations where spot

markets or long-run contracts do not suffice. In these situations, vertical arrangements afford the firm a greater measure of control over intermediate inputs that are used in its production process.

Others, like Dunning (1993), have developed more extensive classification systems for explaining the presence of multinational corporations (MNC). Dunning (1993, p. 4) identifies two distinctive features of the MNC: "organizes and coordinates multiple value adding activities across national boundaries" and "internalizes the cross-border markets for the intermediate products arising from these activities". Within this framework, Dunning develops a four-part classification framework in which multinationals are categorized as (1) natural resource seekers, (2) efficiency seekers, (3) strategic asset or capability seekers, or (4) market seekers (see 1993, Ch. 3). But each of these characterizations can be seen as specific applications of Caves' core framework—as all provide specific reasons as to why the transnational company would choose to extend its boundaries into different markets.

Natural resource-seeking MNCs are defined as those who enter certain markets to secure access to primary inputs and supply sources. They are also motivated by a need to "acquire (local) technological capability, management or marketing expertise and organizational skills" (Dunning, 1993, p. 57). The expansion strategies of resource-seeking MNCs are often motivated by cost-minimization and access to low cost labour.

Efficiency-seeking MNCs are defined as those who are motivated by the gains to be made from exploiting "economies of scale and scope and... risk diversification" (Dunning, 1993, p. 59). The geographically integrated production models favoured by efficiency seekers often focus, inter alia, on product or process specialization. Rationalization may be driven by either cross-national difference in cost structure and factor endowments, or by underlying differences in supply capabilities and consumer preferences.

In Dunning's taxonomy, both resource- and efficiency-seeking MNCs enter specific markets to capitalize on particular comparative advantages in host markets. At first blush, entry decisions designed to capitalize on basic differences in factor endowments and supply conditions may be consistent with either vertical strategies—in which different locations (establishments or companies) represent separate units in the firm's supply chain—or with conglomerate strategies—in which the firm pursues unrelated activities in different markets. This assumes that basic differences in factor endowments, supply conditions, and local competencies will, in turn, give rise to concomitant differences in the production and location decisions of the firm—such that some specialization in production can be expected to occur.

Viewed in this light, the organizational structure of the transnational firm is an extension of comparative advantage theory of trade; multinationals pursue different activities in markets/locations that are best suited to those activities. But without an additional theory that the transnational firm actually extends its boundary in order to transfer certain strategic assets (intangible or otherwise) *across* vertically related business units, comparative advantage does not itself provide an underlying rationale for the emergence of multinational vertical structures. What is required is that the benefits of vertical acquisition outweigh the costs of

relying solely on arm's-length transactions in markets that are upstream and/or downstream to the firm's principal industry. And here, reliance on imperfect contracts in the raw material sector and transfers of technology in scale-based industries serves to explain the development of the multinational in these areas.

Market-seeking MNCs in Dunning's taxonomy are described as pursuing outward investment strategies to "supply goods and services to markets in these or in adjacent countries". Their investment strategies are designed to support ("sustain or protect") existing foreign markets or develop new markets (p. 58). Historically, market-seeking investment strategies served as a means of "circumventing trade barriers". This trade-barrier subgrouping has received extensive development by Eastman and Stykolt (1960, 1967) and English (1964). It is a theory that develops the conditions under which a multinational can be induced to shift from exporting to a local market to producing therein (Horst, 1972). But it still requires an explanation as to why the multinational extends production across borders rather than simply transferring assets—and this is what the overarching specific asset theory of Caves provides.

Finally, *strategic-asset seeking* MNCs focus on growth strategies that provide the firm with general competitive advantages. This subgrouping is at the heart of the main theory—but it extends it by making the asset superiority of the multinational firm endogenous rather than exogenous. The specific competencies possessed by multinationals come not just from their home country but from developments in their affiliates around the world.

3.2 Data sources and definitions

In this paper, we examine the importance of the activities of foreign firms operating in Canada. Statistics Canada measures the importance of these activities in several different ways.

We make use of several terms to describe this activity, terms whose definitions need to be clarified at the outset. Multinationals are firms that operate production facilities in more than one country. Foreign multinationals are firms that are resident in countries outside of Canada but who have operations in Canada—through affiliates, branches or subsidiaries. Firms operating in Canada who are foreign-controlled are those whose voting interest is controlled by foreign residents or by a foreign corporation. Assets under foreign control are the entire assets of foreign-controlled firms. Foreign direct investment is the cross border flow of long-term capital into firms where at least 10% of the voting interest is owned by foreign interests.

In order to assess the changing importance of the operations of foreign multinationals in Canada, data are required on the importance of these firms. Data on the operations of foreign multinationals used in this study come from three sources within Statistics Canada: data on foreign control derived from the CALURA[4] (now CRA) program that is administered within Statistics Canada by the Industrial Organization and Finance Division; data on foreign direct investment produced by the Balance of Payments Division and data on the importance of foreign-controlled firms produced by the Micro-economic Analysis and Manufacturing, Construction and Energy Divisions.

Each of these sources provides different but complementary types of information on the activities of foreign firms in Canada.

CALURA data provide a broad overview of the importance of the sales and assets of foreign-controlled corporations in various sectors in the Canadian economy. Defining a foreign-controlled firm as one *effectively* controlled from abroad (usually, but not always, taking 50% of voting control as the control threshold), CALURA develops summary statistics on the percentage of revenue, assets, profits and equity under foreign control. These data assign all equity (or revenue or assets) of the foreign-controlled firm to the foreign-controlled sector in calculating the share of equity under foreign control. These data classify all the activities of firms to particular industries when summarizing the level of foreign control at the industry level.[5]

The Manufactures data use the CALURA definition of control but assign control at the establishment rather than the firm level. This allows a more precise picture of foreign control at the industry level of detail. Coincidentally, the manufactures data also allow for a more consistent set of industry definitions over longer time periods—for the manufacturing sector.

The Balance of Payments Division data provide information on *foreign direct investment*—the flows of long-term capital (equity and other forms) across the Canadian border that are made in Canadian entities that are linked to foreign entities by at least 10% ownership. It is these flows that eventually lead to foreign control being established. But it should be noted that, in the short run, an increase in foreign direct investment flows may not change the amount of assets under foreign control as measured in CALURA. This can occur either because the increased flows have not yet led to CALURA classifying the firm as being under foreign control or because the firm is already so classified and all assets in the firm are already classified in CALURA as being under foreign control.

The present stock of foreign direct investment[6] is the result of the cumulation of past flows of foreign direct investment and changes in the valuation of these assets. This stock can differ from the total value of these assets to the extent that sources other than foreign funds (domestic) may be used to finance assets.[7]

The cumulative flow of foreign direct investment will not equal assets under foreign control for several reasons. Some part of a firm's assets may be financed domestically and thus, the total assets of the firm can be larger than those financed by foreign direct investment flows. Also the stock of foreign direct investment will not equal assets under foreign control since foreign control statistics include in this category all the assets of a firm under foreign control while foreign direct investment only includes the foreign-owned share of the assets. Other differences are discussed in more detail in the Appendix.

Together these different sources yield complementary pictures of the importance of the operations of foreign firms in Canada. Foreign direct investment data provides us with information on the immediate flows. The control data tell us how these flows translate into control of different segments of the economy. In the following sections, we focus primarily

on CALURA data because we want to know how much of the economy is controlled by the operations of foreign-controlled firms operating in Canada. But we complement this with data that examine the cumulative amount of foreign direct investment that has come across the border to ask whether cross-industry patterns have changed during the period under study.

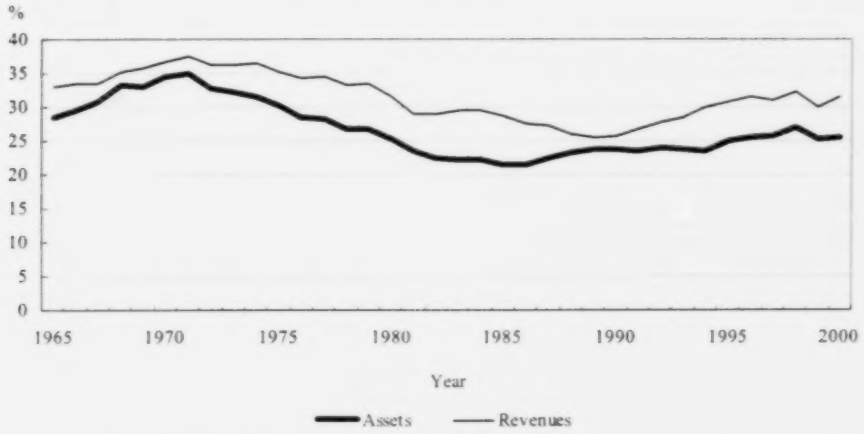
3.3 *Foreign control in the overall economy*

Data from CALURA regarding the extent of foreign control provide a broad overview of the cumulative effect of foreign investment—on the stock of assets in foreign- and domestically-controlled firms and on the relative revenues of each group at a given point in time. When examined over time, these data can be used to assess broad trends in the presence of foreign-controlled firms and their relative importance.

This picture of foreign control is provided by data collected as a result of responsibilities that Statistics Canada has been assigned under the Corporations and Labour Unions Returns Act (now the Corporations Returns Act). The Act provides for the collection of ownership and financial information on corporations that carry on business in Canada.[8] The data that are collected and reported publicly pertain to revenues, assets, profits and equity.

Changes in foreign control for the non-financial sector from 1965 to 2000 are presented in Figure 2.[9] Two measures are provided—the percentage of assets of all non-financial firms accounted for by foreign-controlled firms operating in Canada and the percentage of revenue earned by these firms (see also Table 1). Assets are an input to the production process—producing capital services.[10] Revenue captures the importance of output. The latter is seen to be more volatile in the sense that it depends on transitory conditions in markets and, therefore, in the short run is less useful in describing long-term trends. But in the long run, the two measures may diverge if the relative productivity of foreign-owned firms (revenue produced per dollar of assets invested) changes relative to domestically-owned firms.

Figure 2. Foreign control of non-financial corporations



Source: The data for the period 1988 to 2000 are taken from 2004 CANSIM tables. The data for 1965 to 1987 are taken from Catalogue no. 61-210. The data in the earlier period are spliced in 1988 using corrections available in the 1993 version of this catalogue.

Table 1. Percentage of assets and revenues under foreign control in non-financial corporations (1965-2000)

Year	Assets	Revenues	Revenues/assets
1965	28.6	33.0	1.15
1966	29.6	33.6	1.14
1967	30.7	33.4	1.09
1968	33.2	35.3	1.06
1969	33.0	35.8	1.09
1970	34.4	36.8	1.07
1971	34.9	37.4	1.07
1972	32.8	36.3	1.11
1973	32.3	36.3	1.12
1974	31.5	36.5	1.16
1975	30.2	35.3	1.17
1976	28.4	34.3	1.21
1977	28.3	34.6	1.22
1978	26.7	33.3	1.25
1979	26.8	33.4	1.25
1980	25.3	31.5	1.25
1981	23.4	29.0	1.24
1982	22.6	29.1	1.29
1983	22.3	29.6	1.33
1984	22.2	29.6	1.33
1985	21.4	28.8	1.35
1986	21.5	27.5	1.28
1987	22.5	27.3	1.21
1988	23.3	25.9	1.11
1989	23.6	25.4	1.07
1990	23.7	25.8	1.09
1991	23.6	26.7	1.13
1992	23.9	27.7	1.16
1993	23.8	28.5	1.20
1994	23.6	29.9	1.27
1995	25.1	30.7	1.22
1996	25.4	31.4	1.24
1997	25.9	31.0	1.20
1998	26.9	32.3	1.20
1999	25.3	30.1	1.19
2000	25.5	31.4	1.23

Note: This table is constructed by the authors from two separate sources that differ slightly in terms of levels because of differences in definitions and coverage.

Source: The data for the period 1988-2000 are taken from 2004 CANSIM tables. The data for 1965-1987 are taken from Catalogue no. 61-210. The data in the earlier period are spliced in 1988 using corrections available in the 1993 version of this catalogue.

The share of both assets and revenues under foreign control start to decline in the early nineteen seventies about the time the Foreign Investment Review Agency is implemented and continue through to the mid-nineteen eighties when the Agency is transformed into Investment Canada. After the reversal in regulatory regime, the shares of foreign-controlled assets and revenues rebound. The change in the direction of assets under foreign control leads changes in the direction of revenue under foreign control both at the beginning of the decline and then at the beginning of the rebound.

The decline in the 1970s and early 1980s that occurs in the proportion of assets under foreign control is large—dropping from 35% of the total to only 21% of the total over the period. The percentage of sales revenue accounted for by foreign-controlled firms fell from 37% to 29% over the period.

With the change in regulatory regime, the importance of foreign-controlled firms increased. The percentage of sales revenue and assets in this group has been increasing steadily to the year 2000, though it has not quite reached the levels seen in the late 1960s. The fact that the increase in foreign control does not quite offset the previous decline is consistent with an interpretation that attributes changes in foreign control both to declines in tariffs and to changes in the regulatory regime. In the earlier period, both were working to reduce foreign control. In the latter period, only tariffs would have been operating to reduce foreign control.

There are, of course, several factors that may have caused changes in foreign control over time. The attractiveness of the Canadian economy to foreign investors increases and decreases with changes in the economic climate. And it may be that some of these changes in the economic climate have driven changes in foreign control. In order to provide a more comprehensive test of the effects of changes in the regulatory regime, we can try to isolate the effects of the change in the regulatory regime from changes in the attractiveness of the investment climate for foreign direct investment in Canada. To do so, we estimate a regression of foreign control (FC_t) on a time trend and two period specific binary variables corresponding to the more restrictive regulatory regime of 1975 to 1985 (FIRA) and the more liberal regulatory regime from 1986 to 1999 (POSTFIRA). We also include a set of variables (X_t) that captures the attractiveness of the economic environment.

$$(1.1)\quad FC_t = \alpha_0 + \alpha_1 * T + \alpha_2 * T * FIRA + \alpha_3 * T * POSTFIRA + \alpha_4 * X_t$$

The attractiveness of the economic environment is represented by several variables that capture different aspects that are often considered as signposts of success or of problems.

The first is relative Canada/U.S. GDP (RELGDP) expressed in U.S. dollars. As the Canadian economy improves relative to that of the U.S., we might expect the investment climate to lead to more foreign investment and therefore more foreign control.

The second variable is relative unit labour costs in Canada compared to the United States (RELUNIT). Unit labour costs are defined as the wage rate divided by labour productivity and proxies the relative attractiveness of Canada from the stand point of labour costs and productivity. Since unit labour costs involve two concepts—both wage rate and relative labour productivity—the measure will increase if wages increase more than does labour productivity. We expect that increases in this variable reduce the appeal of Canada relative to the United States and that the coefficient on this variable will be negative.

The third variable is the difference in the growth in wage costs (RELWG). This variable is defined as the growth in the Canadian wage rate (wages divided by hours worked) expressed in U.S. dollars minus the growth in the U.S. wage rate. Increases in this variable are expected to make Canada a less desireable place for foreign investment. Therefore, this variable is expected to have a negative sign.

Finally, we include the difference in the expected return to capital in the two countries (RELYIELD). This is calculated as the stock dividend yield from the TSE in year t minus

Table 2. Regressions of foreign control

Panel A: Level of foreign control

Variable	1	2
Intercept	30.6*	85.8*
Time trend	0.36	0.03
Time trend*FIRA	-0.69*	-0.58*
Time trend*POSTFIRA	-0.56*	-0.37***
Relgdp	...	75.1
Relunit	...	-57.9**
Relwg	...	-19.4***
Relyield	...	1.87**
Adjust R^2	0.74	0.78

Note: *significant at the 1% level; **significant at the 5% level; ***significant at the 10% level.

... not applicable

Source: Regression data was compiled from various Statistics Canada and external data sources.

Panel B: Changes in foreign control

Variable	Coefficient	Standard error	Pr>t
Intercept	0.56	0.36	0.131
FIRA	-1.39	0.46	0.005
POSTFIRA	-0.36	0.45	0.425
ΔRelgdp	-45.6	51.77	0.386
ΔRelunit	-3.09	12.06	0.800
ΔRelwg	2.95	4.87	0.549
ΔRelyield	0.13	0.29	0.644
Adjust R^2	0.17	...	...

... not applicable

Source: Regression data was compiled from various Statistics Canada and external data sources.

the dividend yield from the SP500 in year t. The larger the difference, the larger is the relative attractiveness of the investment climate in Canada. We expect a positive coefficient on this variable.

The results are reported in Table 2. The first column reports just the coefficients on the trend variable for the first period, the period during the Foreign Investment Review Agency, and the last period when FIRA was replaced by Investment Canada. The coefficient attached to FIRA is negative and significant, thereby confirming that FIRA was accompanied by a long-term downward trend in foreign control. So too is the coefficient on the latter period, though it is smaller, thereby indicating that foreign control had begun to return to the same levels as the period before FIRA.

The second column includes all four economic condition variables in addition to the regime variables. Relative labour costs and relative wage growth rates have a negative and significant sign. Relative return has a positive and significant sign.

It is noteworthy that after the economic conditions are included, the coefficients attached to the FIRA dummy variable remains negative and significant. Despited the inclusion of these

variables that take into account the attractiveness of the economy, the period during FIRA was marked by a reduction in foreign investment.

The formulation contained in equation 1.1 has the problem that it may contain cointegration problems. Globerman and Shapiro (1999) address this problem by taking first differences as in equation 1.2.

$$(1.2)\quad \Delta FC_t = \alpha_1 + \alpha_2 * D_1 + \alpha_3 * D_2 + \alpha_4 * \Delta X_t$$

When we do this in panel B of Table 2, only the binary variable for the FIRA period is significant. The coefficient for the post FIRA period does not differ significantly from the pre-FIRA period. Our regression results then bolster the visual impression provided by Figure 2—that the period of regulatory restraint was accompanied by a reduction in foreign control.

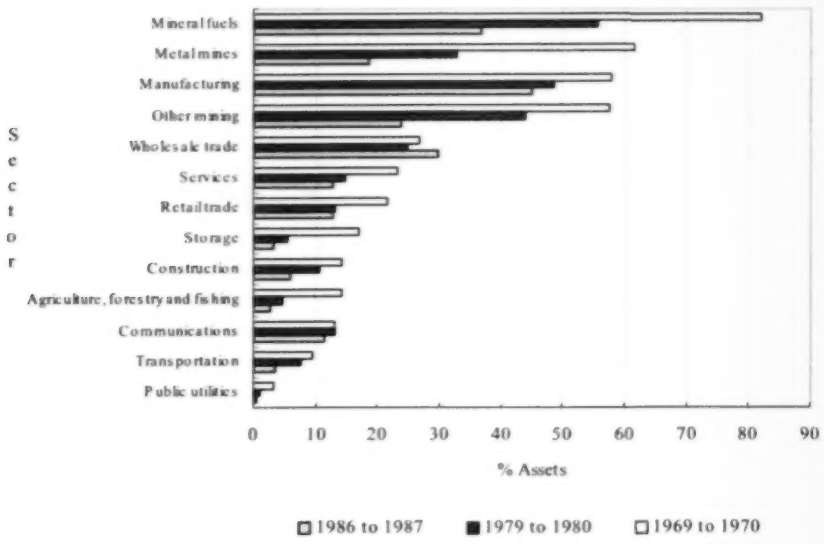
It is also useful to examine changes that were occurring within individual sectors in order to ascertain whether the trends of decline and growth were widespread or whether this overall pattern was the result of changes in only a small number of sectors. Widespread changes are more likely to come from a common regulatory effect rather than from industry-specific events.

Foreign control at the industry level in the first period is depicted in Figure 3, which provides the percentage of assets under foreign control for 1969-1970, 1979-1980, and 1986-1987 (see also Table 3). At the beginning of the period, foreign control was highest in the natural resources sectors of mining and fuels. Natural resources had been the focus of multinational penetration both before and after World War II (Aitken, 1961) and this sector was still dominated by foreign-controlled firms in the late 1960s. But manufacturing also was among those industries with the highest share of foreign control. Foreign multinationals have operated extensively in both sectors because of the importance of technology transfers in each area, because of incomplete contract markets especially in the resource area, and because of the high tariff rates imposed on manufactured goods as part of Canadian commercial policy stretching back to Confederation.

Most sectors experienced declines in foreign control during the period when overall foreign control fell, but the declines when calculated in terms of percentage points of foreign control were especially large in the areas where foreign control was highest. In mineral fuels, foreign control declined from 82% to 37% over the period. Reductions in foreign control were encouraged in this sector during this period not only by restrictions that were placed on foreign investment via the Foreign Investment Review Agency, but also by the creation of a federal petroleum company, Petrocan. Other large percentage point declines occurred in metal mines and other mining. It is noteworthy, however, that declines in foreign control also occurred in manufacturing and many other sectors.

A separate measure of the broad impact of the tightening of controls on foreign direct investment is provided by the *rates* of decline in foreign control in each sector (calculated

Figure 3. Industry changes in foreign control (1968 to 1987)



Source: CALURA Reports, Statistics Canada.

as the percentage point decline divided by the initial level of foreign control). If a given percentage of foreign firms were discouraged by the regulatory regime, you might expect the *rates* of decline in foreign control to be less variable across sectors than the percentage point declines. Indeed, the coefficient of variation (a measure of the relative variation of two series) for the rates of decline is less than half the coefficient of variation for the decline calculated in percentage points.

The *rates* of decline are quite high, even in those sectors that started off with a lower rate of foreign control. As a result, when the rate of decline is calculated, even those sectors that started with low levels of foreign control experienced high rates of decline (Table 3). For example, the mineral sector experienced a 55% rate of decline; but transportation experienced a 62% rate of decline, services a 44% rate of decline and construction a 57% rate of decline. The only sector to experience growth in foreign control was the wholesale sector.

If the decline in foreign control was relatively widespread, then the distribution across industries of assets under foreign control should have remained relatively stable over time. The CALURA data on the industry distribution of foreign-controlled assets (Table 4) demonstrate that this distribution did remain relatively constant in the earlier period. Despite the general decline in the share of foreign control in mining and mineral fuels, its share of all foreign-controlled assets was 21% in 1969-1970, but still 20% in 1986-1987. The share in manufacturing only fell from 59% to 57%. Other industries experienced relatively minor changes as well. All of this suggests that the period under the Foreign Investment Review Agency was marked by a relatively uniform decline in the presence of foreign operations in Canada across sectors. Reductions in foreign control were widespread.

Table 3. Percentage of assets under foreign control by industry (1969-1987)					
	1969-1970	1979-1980	1986-1987	Percentage point change	% change
Public utilities	3.3	1.2	0.5	-2.9	-86
Transportation	9.5	7.5	3.6	-5.9	-62
Communications	13.2	13.1	11.4	-1.8	-14
Agriculture, forestry and fishing	14.3	4.5	2.8	-11.5	-80
Construction	14.1	10.5	6.1	-8.0	-57
Storage	17.0	5.5	3.1	-13.9	-82
Retail trade	21.5	13.0	12.9	-8.6	-40
Services	23.1	14.8	12.8	-10.3	-44
Wholesale trade	26.8	24.8	29.6	2.8	11
Other mining	57.5	44.0	23.7	-33.8	-59
Manufacturing	57.8	48.5	45.1	-12.7	-22
Metal mines	61.5	32.8	18.5	-43.0	-70
Mineral fuels	82.1	55.7	36.8	-45.3	-55

Source: CALURA reports, Statistics Canada.

Table 4. Share of total assets under foreign control by industry (1969-1987)—industry % of total				
	1969-1970	1979-1980	1986-1987	Percentage point change
Agriculture, forestry and fishing	0.4	0.3	0.2	-0.2
Mining	20.5	24.0	19.6	-1.0
Manufacturing	59.2	53.5	56.5	-2.7
Construction	1.9	1.8	0.9	-1.0
Transport, communications and other utilities	6.3	5.0	3.3	-3.0
Wholesale Trade	7.1	8.7	11.5	4.5
Retail Trade	3.7	3.1	4.0	0.3
Services	2.8	3.5	3.9	1.1
Total—All Industries	100.0	100.0	100.0	100.0

Source: CALURA reports, Statistics Canada.

While foreign direct investment[11] is not exactly the same as the amount of assets under foreign control (see Appendix), the two measures are related to one another.[12] The shares of the foreign direct investment stock by industry are presented in Table 5. The levels provided in this table differ slightly in concept because the financial sector is included in the Balance of Payments Division but not in the CALURA data. This foreign direct investment evidence too shows relative stability in the shares over the earlier time period from 1961-1981. The mining sector experiences the most decline—but less than is shown under CALURA.

Comparisons of the sources of declines and the sources of subsequent growth in foreign control in individual sectors are made difficult by the change in 1988 to the industry classification system that Statistics Canada uses to classify foreign control statistics (see Appendix for discussion). The changes in the share of assets under foreign control by sector after 1998 are provided in Table 6 and Figure 4. In the period from 1988 to 1998, the experience of some manufacturing industries (chemicals and textiles, transportation equipment, machinery and equipment, wood and paper) is reversed from the earlier period and these industries undergo gains in foreign control. Consumer goods and services, which include both manufacturing and some merchandising, experience increases in foreign control. Similarly, so does services and food and transportation (the latter is dominated by transportation). Energy continues its decline. On the whole, increases in foreign control are more widespread than decreases.

Table 5. Share of foreign direct investment stock (position) by industry sector (1961-1991)				
	1961	1971	1981	1991
Mining and smelting	11.9	12.6	7.9	3.9
Petroleum and natural gas	24.6	24.6	25.5	16.3
Manufacturing	42.4	40.4	40.2	46.0
Utilities	1.9	1.5	0.9	1.1
Merchandising	5.6	6.8	7.7	7.4
Financial	11.5	11.1	13.7	20.5
Other	2.2	3.0	4.0	4.7
Total	100.0	100.0	100.0	100.0

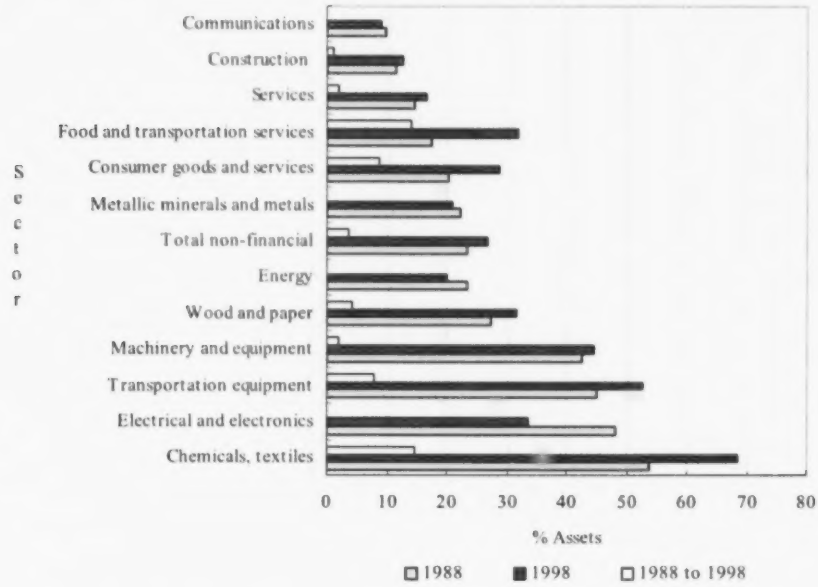
Source: Catalogue no. 67-202, Table 30, Balance of Payments, Statistics Canada.

Table 6. Percent of assets under foreign control by industry (1988-1998)			
	1988	1998	Percentage point change 1988-1998
Chemicals, textiles	53.8	68.5	14.7
Electrical and electronics	48.2	33.5	-14.7
Transportation equipment	45.0	52.8	7.8
Machinery and equipment	42.5	44.4	1.9
Wood and paper	27.2	31.5	4.3
Energy	23.3	20.0	-3.3
Total non-financial	23.3	26.9	3.6
Metallic minerals and metals	22.3	20.9	-1.4
Consumer goods and services	20.2	28.8	8.6
Food, beverages and transportation services	17.6	31.8	14.2
Services	14.6	16.5	1.9
Construction	11.6	12.6	1.0
Communications	9.9	9.0	-0.9

Source: CANSIM Table 179-0001, December 31, 2003, Corporation Returns Act, Statistics Canada.

That these changes are quite widespread is once more confirmed by the relative constancy of industry shares of foreign direct investment that are derived from Balance of Payments Division data (Table 7). Despite this relative constancy, there are some changes in particular industries. For example, the energy and metallic minerals sector continues its downward trend over the post deregulation period falling from over 30% in 1984 to 17% in 1999 before beginning to rebound in 2002. The share of total direct investment in manufactured products generally increases—food, beverages and tobacco; chemicals, chemical products and textiles; electrical and electronic products, wood paper and energy all increase from their lows of the late 1980s to the late 1990s. The share of foreign direct investment in transport equipment fell over the period, as did construction.

Figure 4. Sector Foreign Control (1988 to 1998)



Source: CALURA Reports, Statistics Canada.

Table 7. Share of foreign direct investment stock (position) by sector (1984-2002)—percent of total

	1984	1987	1990	1993	1996	1999	2002
Wood and paper industry	3.9	5.0	5.8	6.4	5.6	6.1	4.2
Energy and metallic minerals industry	30.7	25.3	24.1	21.8	17.5	17.0	22.8
Energy	..	19.8	16.6	14.8	11.6	11.3	16.2
Metallic minerals and metal products	..	5.6	7.5	7.0	5.9	5.7	6.6
Machinery and transportation equipment industry	13.1	16.1	14.1	14.6	13.9	12.1	14.1
Machinery and equipment	..	4.1	4.1	4.4	4.0	3.7	3.1
Transportation equipment	..	12.0	10.0	10.1	10.0	8.4	10.9
Finance and insurance industry	15.4	16.7	18.9	18.9	18.4	20.9	19.2
Services and retailing industry	9.6	7.7	7.5	7.8	10.4	9.3	8.3
Transportation services	..	0.5	0.8	0.9	1.6	1.2	1.0
General services to business and government services	..	0.0	1.0	1.2	1.1	1.0	1.3
Education, health and social services	..	0.0	0.0	0.0	0.0	0.1	0.0
Accommodation, restaurant and recreation services	..	1.3	1.5	1.2	1.8	1.7	1.4
Food retailing	..	0.0	0.3	0.3	0.3	0.4	0.4
Consumer goods and services	..	4.1	3.8	4.1	5.5	5.0	4.1
All other industries	27.3	29.2	29.6	30.5	34.3	34.7	31.4
Food, beverage and tobacco	..	7.0	7.0	8.4	8.4	9.0	10.6
Chemicals, chemical products and textiles	..	8.5	10.4	11.7	12.4	11.0	9.5
Electrical and electronic products	..	6.3	5.6	5.4	6.8	8.6	7.3
Construction and related activities	..	6.1	4.9	3.2	4.5	3.5	2.8
Communications	..	1.2	1.6	1.7	2.1	2.6	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

.. not available for a specific reference period

Source: CANSIM Table 376-0038, International investment position, Canadian direct investment abroad and foreign direct investment in Canada, by industry.

Manufacturing

In this section, we extend the picture that we derived above on changes in foreign control from CALURA data with a complementary set of information. Information on changes in foreign control can be derived from the Census of Manufactures (Annual Survey of Manufactures) at a finer level of industry detail than is provided by CALURA that is more consistent over time—though only for the manufacturing sector. The measure of foreign control is essentially that of CALURA and is applied to establishments in the Census of Manufactures.

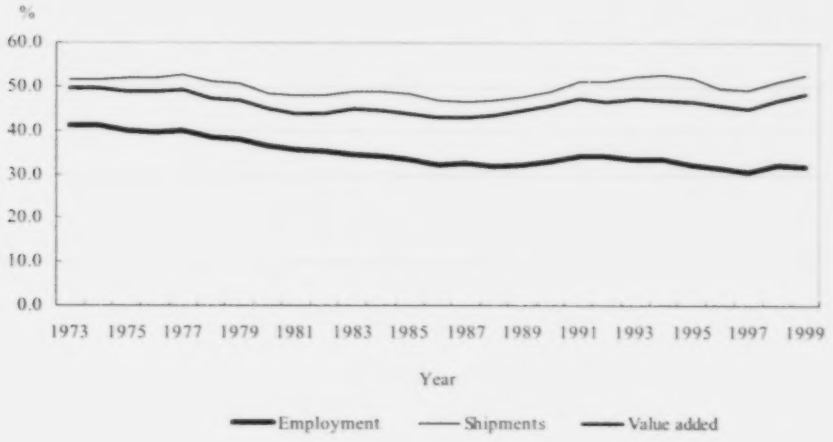
Another advantage of the data on manufacturing is that it allows us to measure an output concept that is closer to the contribution that an industry makes to GDP. Data on the importance of foreign control in manufacturing are available for two measures of output—both for shipments and for value added. CALURA provides only sales revenue as an output measure. Value added is a measure that comes closer to measuring the real non-duplicated output of the industry—since it subtracts intermediate inputs from shipments revenue.[13] And this measure, when added across all firms, sums to total GDP in the economy. Total sales, when summed across all firms, is much larger than GDP. The ratio of sales to GDP depends on the degree of intermediation or vertical integration that takes place among firms. For example, a firm that splits into two parts still produces the same amount of value added but doubles it sales—what it once transferred internally it now books as sales from one establishment to another.

Value added trends can diverge from sales trends—especially over the long run when the level of intermediate operations may change. If this is the case, examining the percentage of value added under foreign control may provide a different picture than the percentage of shipments under foreign control. For example, if foreign-owned firms were increasing the amount of intra-industry transactions in their production process, sales revenue would increase relative to value added. And there is evidence that in the post-NAFTA world, large firms (many of whom are foreign-controlled) have increased their sales to value added ratios. Use of sales or revenues then may bias conclusions about the changing importance of foreign control.

In order to assess how these and other changes have affected the role played by foreign-controlled firms in Canada, we first investigate how the share of foreign-controlled firms in the Canadian manufacturing sector has changed over time. These data are derived from establishment data, taken from the Census of Manufactures, with each plant classified by ownership type—domestically- or foreign-controlled.[14] The changes in the importance of foreign-controlled establishments in the Canadian manufacturing sector over the period from 1973 to 1999 are measured using both shipments and value added (Figure 5 and Table 8). We also report the foreign-controlled share of labour inputs—defined as the sum of production and non-production workers.[15]

The share of output in manufacturing accounted for by foreign-controlled establishments, measured in terms of shipments and value added, declined to reach a low in 1981 and 1982. The percentage point decline in the manufacturing sector as a whole is about the same using the Census of Manufactures data set as is found in the CALURA data for the manufacturing sector.[16]

Figure 5. Percentage employment, shipments and value-added of foreign-controlled establishments in manufacturing



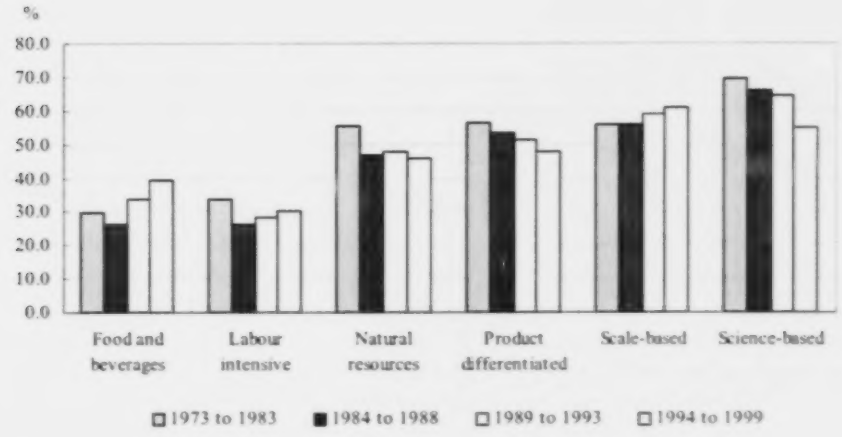
Source: Micro-economic Analysis Division database.

Table 8. Share of foreign control in manufacturing (%)

Year	Employment	Value shipments	Value added
1973	41.0	51.4	49.4
1974	40.9	51.4	49.4
1975	39.8	51.7	48.8
1976	39.6	52.0	48.8
1977	39.9	52.8	49.0
1978	38.4	51.3	47.3
1979	37.8	50.9	47.0
1980	36.3	48.5	44.8
1981	35.5	47.9	43.7
1982	35.1	48.1	43.7
1983	34.4	48.6	45.0
1984	34.0	48.8	44.6
1985	33.1	48.2	43.8
1986	32.2	47.0	42.8
1987	32.4	46.4	43.1
1988	31.7	46.8	43.3
1989	32.2	47.6	44.6
1990	32.8	48.8	45.6
1991	34.1	51.0	47.1
1992	34.3	51.2	46.5
1993	33.5	52.3	47.0
1994	33.2	52.7	46.9
1995	32.2	52.0	46.6
1996	31.2	49.6	45.9
1997	30.5	49.1	44.8
1998	32.2	51.0	46.9
1999	31.7	52.7	48.3

Source: Special Tabulations by the Micro-economic Analysis Division using data from the Census of Manufactures (Annual Survey of Manufactures) using CALURA control concept.

Figure 6. Foreign-controlled market share using shipments (VST), by sector (Natural resources excludes Food and beverages industries)



Source: Micro-economic Analysis Division database.

There was a gradual increase in the foreign-controlled output share starting in the mid-1980s. By the end of the period, foreign control of both shipments and value added had returned to about where it was in 1975. It should be noted that foreign control as measured by shipments increased by about the same amount as foreign control of value added. The ratio of the foreign-controlled share of shipments to value added stayed about constant through to the 1990s. The manufacturing data then generally conform to the picture provided by the CALURA data (despite having been constructed from establishment rather than enterprise or company data). Output share declines to the middle of the 1980s and then rebounds.

While the foreign share of output remained unchanged over the long run, its share of employment decreased more or less continuously over time. The labour productivity of foreign-controlled firms (defined in terms of either shipments or value added per worker) relative to domestically-controlled firms has, therefore, increased. Except for the two recession-related downturns, the increase has been more or less steady over the entire time period. This difference serves to emphasize the need to remember that measures of importance, using output as opposed to an input like labour, can differ when the relative productivity of the sector is increasing.[17] When this occurs, using inputs such as labour or assets, may understate the importance of the foreign-controlled sector in terms of its control over final output.

The aggregate data that are presented in Figure 5 hide differences in foreign control at the industry level. Figure 6 and Table 9 contain foreign ownership shares and changes therein across six sectors—food and beverages, natural resources, labour intensive, scale-based, product differentiated and science-based industries.[18] Science-based industries are those where R&D and non-production workers are more important than elsewhere. Scale-based industries are those with high capital intensity and where scale economies are more important. Labour intensive industries are those with lower wage rates and higher labour/capital ratios

Table 9. Foreign control by manufacturing sector (1973-1999) (% of shipments)				
Sector	1973-1983	1984-1988	1989-1993	1994-1999
Food and beverages	29.6	26.0	33.9	39.2
Labour intensive	33.6	26.0	28.3	30.2
Natural resources	55.2	46.7	47.7	46.0
Product differentiated	56.6	53.1	51.3	47.9
Scale-based	55.8	56.0	58.7	61.0
Science-based	69.3	65.9	64.6	55.0

Source: Special Tabulations by the Micro-economic Analysis Division using data from the Census of Manufactures (Annual Survey of Manufactures).

than elsewhere. Product differentiated industries generally have higher advertising ratios. The natural resource sector contains industries where raw material inputs are relatively important. The food sector, which belongs to the natural resource sector, is separated out so that the remainder of the natural resource sector (heavily weighted by mineral smelting) can be examined separately.

The asset-specific theory of the multinational firm explains the development of a multinational as the extension of a large domestic firm across international boundaries that is caused by the existence of assets in the possession of this firm that are difficult to trade—either because these knowledge-based assets lead to asymmetric information difficulties or problems in writing contracts, evaluating results and monitoring performance (Caves, 1982). These assets could involve proprietary production technology, unique marketing skills, trademarks, or brand names. Because knowledge-based assets are assumed to be difficult to exchange efficiently via market mechanisms, firms that possess these assets exploit them in foreign markets not by selling or licensing them but by setting up shop abroad.

As the asset-specific theory of foreign ownership suggests, foreign control in Canadian manufacturing is generally larger throughout the period in the science-based industries where foreign multinationals have exhibited superior skills in applying research and development to the production process. Similarly, foreign control is higher in scale-based industries where high capital intensities are associated with mastering the application of advanced technologies. Next come the natural resources industries where both capital intensity and incomplete contractual markets lead to foreign penetration. Product differentiated industries, where assets associated with brands are the incentive for foreign investment, are next. Last are the labour intensive industries where the previously mentioned incentives for foreign investment are the least important.

The specialized asset explanation of multinational activity can be tested by examining the relationship between foreign control at the industry level and various industry characteristics that proxy the existence of specialized assets. Our choice of variables is conditioned by previous work (Caves, 1974; Baumann, 1975; Saunders, 1978; Caves et al., 1980).

There are several industry characteristics that this theory suggests should be associated with multinational activity. The first is capital intensity. Industries with high capital intensity are those that require a special type of technological knowledge to operate highly mechanized

operations and that might be expected to have more foreign control. Associated with capital intensity is a measure of scale economies. Both are proxies for the type of skills that allow firms to become larger.

The second characteristic that is expected to be positively correlated with foreign control is the share of white-collar or supervisory workers in an industry (Caves et al., 1980). Industries with embedded knowledge tend to hire a large portion of supervisory workers because of the complexity of the production process. It is in these situations that technology and know-how cannot be easily transferred across national borders with the sort of direct investment associated with multinational operations (Teece, 1976).

Research and development intensity is also hypothesized to be related to foreign control because of the difficulties in transferring the knowledge that comes from scientific activity.

Marketing assets might also be expected to be among the asset types that lead to multinational activity. Two industry characteristics are used to capture the importance of these assets. The first is advertising intensity. The second is the number of products per industry. An industry with a greater number of products is taken to have more product differentiation and therefore to be an industry where brands are more likely to play an important role. Both variables are expected to be positively related to the degree of foreign control.

We also include a measure of the extent to which firms in an industry are diversified across other industries. Diversity of firms at the domestic level across industries occurs for the same reason that foreign multinationals are attracted to an industry. Diversity occurs when a firm can extend special knowledge acquired in one industry to other industries. Industries where firms are more diversified should therefore be ones where there is more foreign control.

Finally, we include measures of tariff protection to test the hypothesis that higher tariff rates are one of the factors behind multinational penetration of an industry.

The coefficients from a multivariate regression that asks how the degree of foreign control (the share of shipments accounted for by foreign-controlled establishments) across 167 4-digit industries in 1970 is related to these industry characteristics are reported in Table 10. Variable definitions are presented in Table 11.

As the asset-specific theory of multinationals suggests, foreign control is positively related to capital intensity and scale, R&D intensity, the share of supervisory workers, the number of products, the advertising intensity, and to industry diversity. The coefficient attached to each of these variables is statistically significant. An earlier study by Caves et al. (1980) also found advertising, R&D, and diversity (measured by multiplant activity) to be positively related to the share of sales accounted for by foreign-controlled enterprises).

Table 10. The determinants of foreign control (1970)			
Variable	Coefficient	Standard error	Probability value
Capital intensity	0.4243	0.1975	0.0334
Supervisory workers	0.4798	0.1991	0.0172
Research and development	0.0035	0.0014	0.0131
Advertising intensity	1.7146	1.1196	0.1252
Product numbers	0.0009	0.0004	0.0200
Industry diversity	-0.4259	0.1290	0.0012
Scale economy	0.3642	0.1827	0.0493
Tariff rate	0.0060	1.0323	0.9533
R^2	0.40	...	...
F (9,152)	12.77	...	0.0001

... not applicable

Source: Micro-economic Analysis Division manufacturing database.

Table 11. Variable definitions	
Foreign-control	The percentage of an industry's shipments that come from plants that are foreign-controlled. Foreign-control is determined using basically the same criteria as CALURA.
Capital intensity	The ratio of the census value added minus wages to wages.
Supervisory workers	The ratio of non-production workers to total employment in an industry.
Research and development	The ratio of research and development personnel to all wage and salary earners.
Advertising intensity	The input-output coefficient for that industry that captures the importance of the use of advertising.
Product numbers	The number of 5-digit commodities per 4-digit industry.
Industry diversity	A measure of cross industry diversity of all enterprises assigned to an industry on the basis of the majority of the value added produced by all plants controlled by these firms. A Herfindahl index is created for each firm using the shares of output of its plants in different industries and then a weighted average for an industry is created using shipments of each firm.
Scale economy	The ratio of minimum efficient sized plant (MES) divided by industry size where MES is calculated as the average size of plants that account for the top 50% of shipments in the industry.
Tariff rate	The effective tariff rate.

Source: Baldwin (1995).

Our results also show that foreign control is positively related to the effective tariff rate, though the coefficient is not statistically significant.[19] This too is similar to previous results (Caves et al., 1980).

These regression results give strong support to the notion that multinational activity is closely related to the possession of special assets. But they also suggest that the effects of the tariff that had so often been stressed in the literature (Marshall, Southard and Taylor, 1936) are less significant than the special industry characteristics that we have argued are related to the asset specificity that induces inward investment.

And to the extent that these assets continue to possess the importance that attracted foreign multinationals in the first place, changes that were brought about by a more restrictive regulatory regime might have been relatively widespread. Moreover, the weakness of the tariff variable suggests that most of the change that is observed in foreign control is the result of changes in the regulatory regime.

The CALURA data showed that the decline in the share of foreign control that occurred during the first half of the period was found across most sectors. The same is true of manufacturing sectors, as illustrated in Figure 6. Market shares declined across most sectors between the 1970s and 1980s.

The largest percentage point decline during these years occurs in the non-food natural resource sectors, supporting the previous results on declines in sectors that are integrated into metal mines. But labour-intensive industries experience the next largest absolute percentage point decline and the largest rate of decline. These are the industries where reductions in tariffs were most severe and therefore, where the effect of tariff barriers on inducing foreign ownership would have most diminished the incentive to invest.

In order to test whether changes in foreign control within manufacturing was really related to the tariff changes that were taking place, we regressed the changes in the share of shipments accounted for by foreign-controlled firms between 1970 and 1979 on the changes in tariffs and the industry characteristics that were closely related to foreign control in 1970. The change in tariffs was not significant, thereby suggesting once more that the changes in foreign control that occurred were more related to individual industry characteristics and overall regulatory tightness than to tariff changes, per se.

We report the results for changes in foreign control for the period 1975-1985, the period of time over which the regulatory regime tightened in Table 12. They show that declines in foreign control over this period were not related to product intensity, or to the scale economy proxy. Rather they fell in industries with high advertising to sales ratios. And they tended to increase in those industries where firms had the skills and tendency to diversify to other industries. Foreign control also increased in industries that were more R&D intensive. The latter result is not fully consistent with Figure 6, which indicates that foreign control actually fell in the broad group that are defined as 'scientific'.[20] We therefore used alternate variables to measure the effect of R&D. The coefficient on a measure of payments for technologies abroad was negative. This suggests that the decline in foreign investment occurred not so much in all R&D science-based industries, but rather in those that had more heavily relied on imported technologies.

With the change in regulatory regime in the mid 1980s, foreign control increases in food, labour and scale-based sectors. In contrast, foreign control in the science-based and in the product-differentiated sector continues to decline. This suggests that the attractiveness of the type of marketing and technology assets that leads to foreign control declined slightly in importance. On the other hand, the increase in foreign control in the scale-based sector suggests that knowledge assets associated with the exploitation of large-scale plants became even more important over this period—perhaps because of the possibilities that NAFTA opened up for the exploitation of scale economies.

Table 12. The determinants of changes in foreign-control (1975-1985)			
Variable	Coefficient	Standard error	Probability value
Capital intensity	-0.0975	0.0398	0.0141
Supervisory workers	-0.2751	0.1784	0.1243
Advertising intensity	-3.627	1.2491	0.0042
Product numbers	-0.0005	0.0004	0.2117
Industry diversity	0.0002	0.0001	0.0503
Scale economy	-0.00009	0.0002	0.6290
Research and development	0.00211	0.0010	0.0397
R^2	0.1353	...	...
F (7,154)	4.60	...	0.0001

... not applicable

Source: Micro-economic Analysis Division manufacturing database.

Table 13. The determinants of changes in foreign-control (1985-1995)			
Variable	Coefficient	Standard error	Probability value
Changes 1975-1985 in:			
Labour intensive industries	-0.64	0.19	0.0007
Natural resources industries	0.34	0.25	0.18
Scale-based industries	0.15	0.23	0.51
Product differentiated industries	0.61	0.27	0.02
Science-based industries	0.88	0.37	0.02
R^2	0.0751	...	...
F (5,228)	4.70	...	0.0004

... not applicable

Source: Micro-economic Analysis Division manufacturing database.

To examine the actual changes at the industry level more closely, we regressed the changes over the period 1985 to 1995 on the losses that had been suffered in the earlier period (1975-1985). We ask whether the changes in the earlier period were reversed and whether the amount of reversal varied across sectors. The results in Table 13 show that for labour intensive industries, a one percentage point decline in foreign control share during the first period was accompanied by a 0.64 percentage point increase during the period after regulation. Declines in the natural resources industries and scale-based industries were not accompanied by any significant gains in the latter period. And product differentiated industries and science-based industries continued to decline in the latter period. These were areas where the incentives that had brought foreign multinationals to Canada had diminished over time.

In summary, the more detailed manufacturing foreign control data confirm the broad trends that are present in the CALURA data. There is a broad decline during the period of increasingly stringent regulation followed by a subsequent rebound. Within the overall manufacturing sector, there are changes that are associated with certain industry characteristics that suggest the relative attractiveness of some industries as a target for foreign multinationals changes over the period. While industries that had specific assets associated with natural resources or capital intensity broadly maintained their attractiveness, there was a reduction in foreign control in industries where brands or R&D had originally attracted foreign investment. These changes at the individual industry level did not serve to offset the broad trends that coincide with the two separate periods of regulatory regime.

Endnotes

3. For discussion of the antecedents of the internalization theory of multinationals such as Hymer (1957) and McManus (1972), see Dunning (2003).
4. Corporations and Labour Returns Act (now the Corporations Returns Act)
5. This means that secondary activity of a firm that is, say a food retailer, but that owns some food processing plants, will all be assigned to the retail sector.
6. These stocks are referred to in Balance of Payments Division publications as foreign direct investment *position*.
7. This is not the only reason. See Appendix for more discussion.
8. CALURA (now CRA) surveys the largest firms in the corporate population accounting for about 70% of total revenues.
9. The financial sector is omitted because until 1988 the foreign assets of Canadian firms were included in the size of the domestic sector.
10. Assets as shown on the balance sheets of corporations include such items as cash, marketable securities, accounts receivables, inventories, net fixed assets, investments in affiliated corporations. Revenue is operating revenue (that is, it excludes interest and dividends).
11. Foreign direct investment is the long-term capital (equity, long-term debt) that is transferred from abroad to a Canadian entity from a foreign-related entity (i.e., one that owns at least 10% of the Canadian entity).
12. Over 90% of foreign direct investment in Canada is in foreign-controlled enterprises.
13. It should be noted that, for the period of study, the Census of Manufactures (Annual Survey of Manufactures) measure of value added is only a proxy for value added since it subtracts out only material and energy costs but contains a purchased-services component.
14. These data provide a finer level of industry detail that is furnished by classifications that use firm-based data, such as are provided by Corporations and Labour Unions Returns Act (CALURA).
15. The Census of Manufactures (Annual Survey of Manufactures) does not collect data on assets or capital, but does provide information on labour inputs.
16. It need not be because CALURA classifies all of a firm to only one industry, while the Manufactures data classifies establishments to industries.
17. The same would be true when comparing foreign control using revenue and asset data from CALURA if capital productivity was increasing in the foreign sector relative to the domestic sector.
18. For a discussion of the definitions of these sectors, see Baldwin and Rafiquzzaman (1994).
19. Replacement of the effective tariff rate with the nominal tariff rate does not change the results.
20. The data provided in Figure 6, are of course, weighted while the coefficients in the regression analysis are not derived from weighted regressions.

Chapter 4. Conclusion

Over the last four decades, foreign multinationals operating in Canada have experienced both a retrenchment and then a resurgence in their activities. The decline occurred across most industries but was particularly large in the energy and mining sector.

Several forces have been at work during this period that might have caused these changes. There has been a gradual reduction in tariffs over the entire period. And there have been major changes in the regulatory regime that have operated in opposite directions. In the first period, restrictions on foreign investment were tightened. In the second period, they were loosened.

In the first period, foreign control declined as tariffs fell and the regulatory regime became more restrictive. In the second period, though tariffs continued to decline, foreign control increased in relative importance, as restrictions on foreign direct investment were loosened. Overall, foreign control returned by the year 2000 to almost the level that it had been at in the mid-1960s.

The aggregate data suggest that there are strong grounds to conclude that the major regulatory changes over the study period, the implementation of FIRA and the subsequent replacement of FIRA by Investment Canada, had an appreciable impact on the aggregate share of economic activity under foreign control. That said, we recognize that regime change may be associated coincidentally with a variety of changes in the macroeconomic environment, beyond the impact of regulatory policy. We test this herein using regression analysis to investigate the effect of a set of variables that are meant to capture the economic environment and we still find the effect of regime change. We also extend our analysis by focusing on a broad cross section of industries, asking if the pattern of decline and growth evident in the aggregate data is evident across many different sectors or localized to specific industries. We find that this pattern is generally widespread, which supports the view that a common regulatory effect had an impact on the investment environment.

Nevertheless, we find that not all sectors experienced decline followed by growth. Nor would this have been expected for several reasons.

In the first case, the tighter regulatory constraints of the 1970s were not relaxed equally across all industries in the mid 1980s. In the energy sector, restrictions on foreign ownership continued—albeit attenuated from the earlier period. As a result, energy, which had

experienced large declines in the earlier period, did not experience the same resurgence as did other sectors in the 1990s. While investment restrictions were loosened, the federally-owned petroleum company (Petrocan) continued to exist and to be protected from foreign takeover.

Second, we would not expect declines to be exactly reversed if the underlying economic incentives behind foreign direct investment changed in some sectors. If particular types of assets no longer created the same incentives to establish foreign operations, we might well have expected a change in foreign control even without a change in regulatory regime.

Rebounds in foreign control occurred in the manufacturing sector as a whole after foreign direct investment deregulation. This was particularly true in manufacturing industries that are capital intensive. But there is some evidence to suggest that the attractiveness of some of the assets that were associated with foreign penetration was reduced over the period. Foreign control in the science-based (R&D-intensive) sector declined both before and after changes in the regulatory regime. So too did foreign control in industries where product differentiation was important. Despite downward trends in foreign control in both these sectors, it should be noted that foreign control still remained high therein.

Most other sectors started and ended the period with much lower levels of foreign control. Foreign control in communications, construction, and retailing started the 1970s at lower levels, but nevertheless declined up to the end of the 1980s. Wholesaling held its own and grew slightly during this period. In the second part of the period, foreign control in communications, construction, food retailing, consumer goods and services (which included retailing) also rebounded, but by small amounts.

With the exception of the energy sector, foreign control at the end of the period is about where it was at the beginning. But it underwent a dramatic decline that coincided with the implementation of restrictions on foreign control. And with the removal of active intervention on the part of the Canadian state, the original level of foreign ownership was reestablished by the end of the period. At least in the case of regulation of foreign ownership, the economy is not one where the consequences of a one-time intervention by the political system persisted unabated after the initial regulatory intervention ceased. Instead, regulatory intervention changed the shape of the economy, but that shape was restored over the course of a decade and a half once regulatory pressure was relaxed.

Chapter 5. Data appendix

CALURA (now CRA) data

Information on the importance of foreign control is collected by the Industrial Organization and Finance Division (IOFD) as a result of responsibilities that Statistics Canada has been assigned under the Corporations and Labour Unions Returns Act (now the Corporations Returns Act). The purpose of the Act is to collect ownership and financial information on corporations that carry on business in Canada. The data that are collected and reported publicly pertain to revenues, assets, profits and equity.

Data are provided both for corporations that are under foreign control and under domestic or Canadian control. Control is defined as the ability to effectively control the board of directors of the corporation. Most of the time, this means that the owner(s) must have majority (50% or more) voting ownership. However, when effective control is achieved through minority ownership and Statistics Canada is aware of this, control is also assigned on this basis.

The value of activity reported as being under foreign control is the total activity of the enterprise that is deemed to be foreign-controlled. For example, the assets of a firm under foreign control are defined to be all assets of that firm, including the share that belongs to Canadian minority shareholders, if they exist.

Several changes in the collection procedure have occurred over time. First, the concept of an enterprise has gone from that of a legal enterprise to that of a statistical enterprise.

Until 1988, an enterprise was a group of corporations under common control. After 1988, a statistical enterprise is used. This consists of one or more enterprises for which a consolidated set of financial statements is produced. The data published using statistical enterprises eliminate the intercorporate transactions and claims within each statistical enterprise and some double counting that may have occurred until this time.

Second, there have been some changes in coverage. Prior to 1988, firms in the financial sector were measured by the size of their total world-wide assets; after 1988 world-wide assets were removed from the domestic sector's assets. Since there is no way to correct for this difference in the financial sector, we focus here only on the non-financial sector.

The other change that has a minor impact on the series for aggregate control of all non-financial industries is a change in classification. After 1988, the real estate sector is moved to the non-financial sector. Corrections are made for this change to generate the continuous time series used here.

In the CALURA data, firms are classified in their entirety to a single industry based on the one activity that accounts for the largest proportion of gross value added. Until 1988, the data are collected on an SIC-E basis whereas after this the data are collected on an SIC-C basis. The SIC-C classification system was developed to handle a statistical problem that often arose from the cross-industry presence of many firms' activities. The aggregation system in the SIC-E focuses more on activities (agriculture, mining). The aggregation system in the SIC-C focuses more on product lines (food, energy). Corporate restructuring can sometimes lead to the corporate reclassification of activities and therefore, to discontinuities in industry series on foreign control. It was felt that the SIC-C system would reduce these discontinuities.

Census of Manufactures (Annual Survey of Manufactures) data

Data on foreign control can also be calculated from the Census of Manufactures (Survey of Manufactures). The Census (now called the Survey) of Manufactures collects data on establishments in the manufacturing sector. The frame consists of virtually all establishments—with some cutoff of smaller establishments. These data cover shipments, employment, value added, wages, and materials expenditures. Data on these variables are collected from questionnaires that are sent to most manufacturing plants. These questionnaires contain varying levels of detail that differ between larger and smaller plants. Data for the very smallest plants come from administrative tax files.

Each establishment within an industry is assigned to an owning enterprise and the nationality of control of each enterprise is determined—using basically the same data that are collected for CALURA purposes by the Industrial Organization and Finance Division. The enterprise concept up to 1988 is slightly more encompassing than that used by IOFD. In the latter case, it was the legal entity. For the manufacturing data, it is all legal entities under common control.

Because the data on foreign control can be calculated for establishment data on shipments and employment, summary statistics can be calculated for a finer level of industry detail than they can be for the CALURA data. CALURA data, which are collected at the firm level (on financial variables), have the difficulty that companies often do not maintain their books for these variables (profits, assets) on an individual plant basis but only at the firm level. And a firm's activities often cover more than one industry. As a result, an entire firm's activities have to be assigned to one industry. For example, a large grocery retailer that owns food-processing plants would have the latter included within the retailing sector for purposes of control calculations associated with the CALURA data. On the other hand, the data from the Census of Manufactures would assign the establishment data to food processing and define the firm within this industry as all establishments owned by the retailer.

The Manufactures' data consistently use the SIC-E classification system during the period from the 1960s to the late 1990s and thus this data does not suffer from the discontinuity that the CALURA data contain when it moves from the SIC-E to the SIC-C classification system in 1988. Admittedly, the SIC-E system does change over time, there being one for the 1960s, one for the 1970s, one for the 1980s, and one for the 1990s. But concordances exist that have allowed for continuous files to be developed that allow for reasonably continuous time series.

Balance of Payments Division foreign direct investment data

The Balance of Payments Division system is used to record transactions between Canadian residents and the rest of the world. It tracks receipts coming into Canada from all international sources, as well as payments made by Canadians to non-residents. The current account records international trade in goods and services; investment income including interest, dividends and profits; and current transfers with non-residents. The capital account measures transactions involving capital transfers and non-produced non-financial assets and the financial accounts measure three types of financial investment—direct investment, portfolio investment (stocks, bonds and money market instruments) and other types of investment (loans, deposits, official international reserves).

As part of the latter, the Balance of Payments Division collects data on direct investment flows as well as direct investment position. Direct investment flows into Canada are those made by a resident enterprise of another country in an enterprise resident in Canada with the intent of having a significant influence on the affairs of the Canadian enterprise. Generally, a rule of 10% ownership of voting equity in the Canadian entity is used when identifying a direct investment relationship.

While the criterion to determine whether there is a direct investment relationship generally relies only on voting equity, direct investment flows cover all transactions in equity and debt between the Canadian enterprise and the foreign entity that are linked by a direct investment relationship. It should be noted that if a Canadian subsidiary expands by issuing debt to the local Canadian financial community, assets under foreign control will increase without any commensurate increase in foreign direct investment flows.

The Balance of Payments Division also produces data on Canada's international investment position—or the cumulated effect of a series of flows and other valuation changes. This presents the value and composition of the stock of Canadian financial claims on non-residents and Canadian financial liabilities to non-residents. Financial claims are a store of value and unlike non-financial assets are not directly employed in productive activity. There are three types of financial assets: direct investment, portfolio investment and other investment. The cumulation through time of the current account balance is reflected in the net international investment position at a point in time—but the relationship is not one-to-one because of several changes that are brought about by exchange rate movements and other valuation changes that are reflected in the foreign direct investment position but not in flows published by the Balance of Payments Division.

It should be noted that the use of a 10% threshold to determine direct investment in the Balance of Payments Division is generally less than the 50% control standard used to determine foreign control in CALURA and, therefore, the direct investment position can differ for this reason from measures of assets under foreign control as measured by CALURA. By definition "(d)irect investment reflects a significant influence in **the other enterprise** and does not need to be as intense as controlling investment, which entails a continuing power to determine its strategic operating, investing and financing policies without the co-operation of others in a controlling interest" (Statistics Canada, 2000).

Finally, direct investment flows are recorded on a net basis. The flow is netted of all transactions in both assets and liabilities between a direct investor and investee. Thus, if a non-resident parent provided additional capital to its Canadian subsidiary and at the same time, the parent's accounts receivable on transactions in goods and services with the subsidiary rose, the direct investment flow would be the Canadian subsidiaries' increased liability to the parent less the increased asset possessed by the parent. Thus, if the Canadian entity both receives foreign direct investment and makes foreign direct investment, only the net flow will be registered. This is another reason that net foreign direct investment will not necessarily cumulate to total assets under foreign control in Canada.

The statistical results for direct investment are derived from the statistical Canadian enterprise, that is, the Canadian company and its fully consolidated associates, subsidiaries and branches.

References

Aitken, H.G. 1961. *American Capital and Canadian Resources*. Cambridge: Harvard University Press.

Baldwin, J.R. 1995. *The Dynamics of Industrial Competition*. Cambridge: Cambridge University Press.

Baldwin, J.R. and M. Rafiquzzaman. 1994. *Structural Change in the Manufacturing Sector: 1970-1990*. Analytical Studies Branch Research Paper Series, Catalogue no. 11F0019MIE1994061. Ottawa: Statistics Canada.

Baumann, H. 1975. "Merger Theory, Property Rights and the Pattern of U.S. Foreign Direct Investment in Canada." *Weltwirtscyh Arch*. 111, 4: 676-698.

Caves, R.E. 1974. "Causes of Direct Investment: Foreign Firms' Shares in Canadian and United Kingdom Manufacturing Industries." *Review of Economics and Statistics*. 56, 3: 279-293.

Caves, R.E. 1982. *Multinational Enterprise and Economic Analysis*. Cambridge, Mass.: Cambridge University Press.

Caves, R.E., A.M. Spence and A.M. Porter with J.T. Scott. 1980. *Competition in the Open Economy: A Model Applied to Canada*. Cambridge, Mass.: Harvard University Press.

Dunning, J.H. 1993. *Multinational Enterprises and the Global Economy*. Reading, Massachusetts: Addison-Wesley Publishing Company.

Dunning, J.H. 2003. "Some Antecedents of Internalization Theory." *Journal of International Business Studies*. 34, 2: 108-115.

Eastman, H.C. 1964. "The Canadian Tariff and the Efficiency of the Canadian Economy." *Papers and Proceedings of the American Economic Association*. 54, 3: 437-448.

Eastman, H.C. and S. Stykolt. 1967. *The Tariff and Competition in Canada*. New York: St. Martin's Press.

Eastman, H.C. and S. Stykolt. 1960. "A Model for the Study of Protected Oligopolies." *Economic Journal*. 70, 278: 336-347.

English, E.H. 1964. *Industrial Structure in Canada's International Competitive Position*. The Canadian Trade Committee. Montréal.

Globerman, S. and D.M. Shapiro. 1999. "The Impact of Government Policies on Foreign Direct Investment: The Canadian Experience." *Journal of International Business Studies*. 30, 3: 513-532.

Government of Canada. 1972. *Foreign Direct Investment in Canada*. Ottawa: Queen's Printer.

Horst, T. 1972. "Firm and Industry Determinants of the Decision to Invest Abroad." *Review of Economics and Statistics*. 54, 3: 258-266.

Hymer, S. 1957. *The international operations of national firms: A study of direct investment*. PhD Dissertation. MIT.

Levitt, K. 1970. *Silent Surrender: The Multinational Corporation in Canada*. Toronto: Macmillan.

Marshall, H., F. Southard and K. Taylor. 1936. *Canadian-American Industry. A Study in International Investment*. New Haven: Yale University Press.

McManus, J.C. 1972. "The theory of the international firm." In *The Multinational Firm*. Gilles Paquet (ed.). Toronto: Collier-Macmillan. 66-93.

Safarian, Ed. 1973. *Foreign Ownership of Canadian Industry*. Toronto: University of Toronto Press.

Saunders, R.S. 1978. *The Determinants of the Productivity of Canadian Manufacturing Industries Relative to that of Counterpart Industries in the United States*. Ph.D Dissertation. Harvard University.

Statistics Canada. 2000. *Canada's Balance of International Payments and International Investment Position: Concepts, Sources, Methods and Products*. Catalogue no. 67-506-XIE. Ottawa: Statistics Canada.

Teece, D.J. 1978. "Vertical Integration in the U.S. Oil Industry." In *Vertical Integration in the Oil Industry*. E.J. Mitchell (ed.). Washington, D.C.: American Enterprise Institute for Public Policy Research. 105-190.

Teece, D.J. 1976. *The Multinational Corporation and the Resource Cost of International Technology Transfer*. Cambridge, Mass: Ballinger.